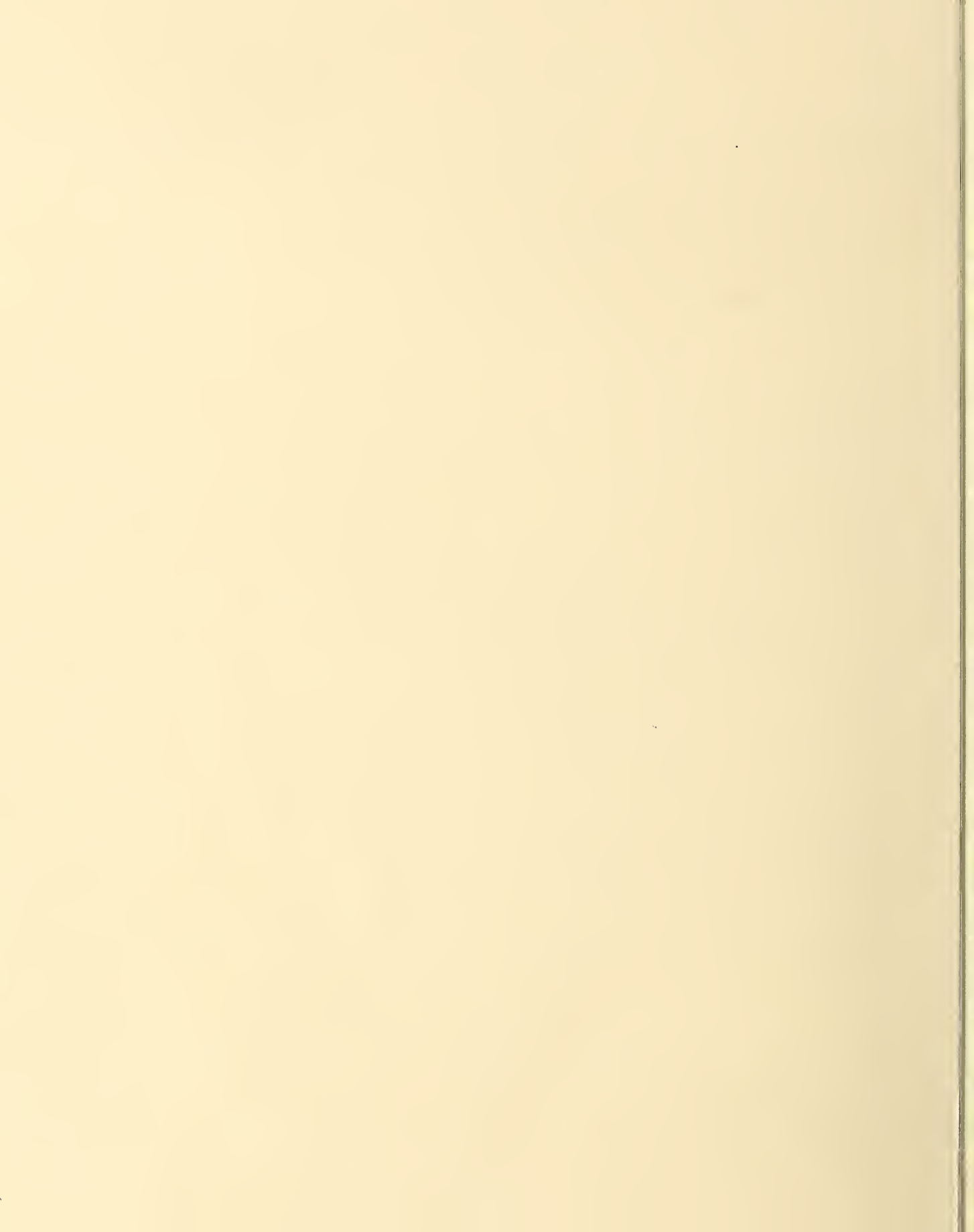


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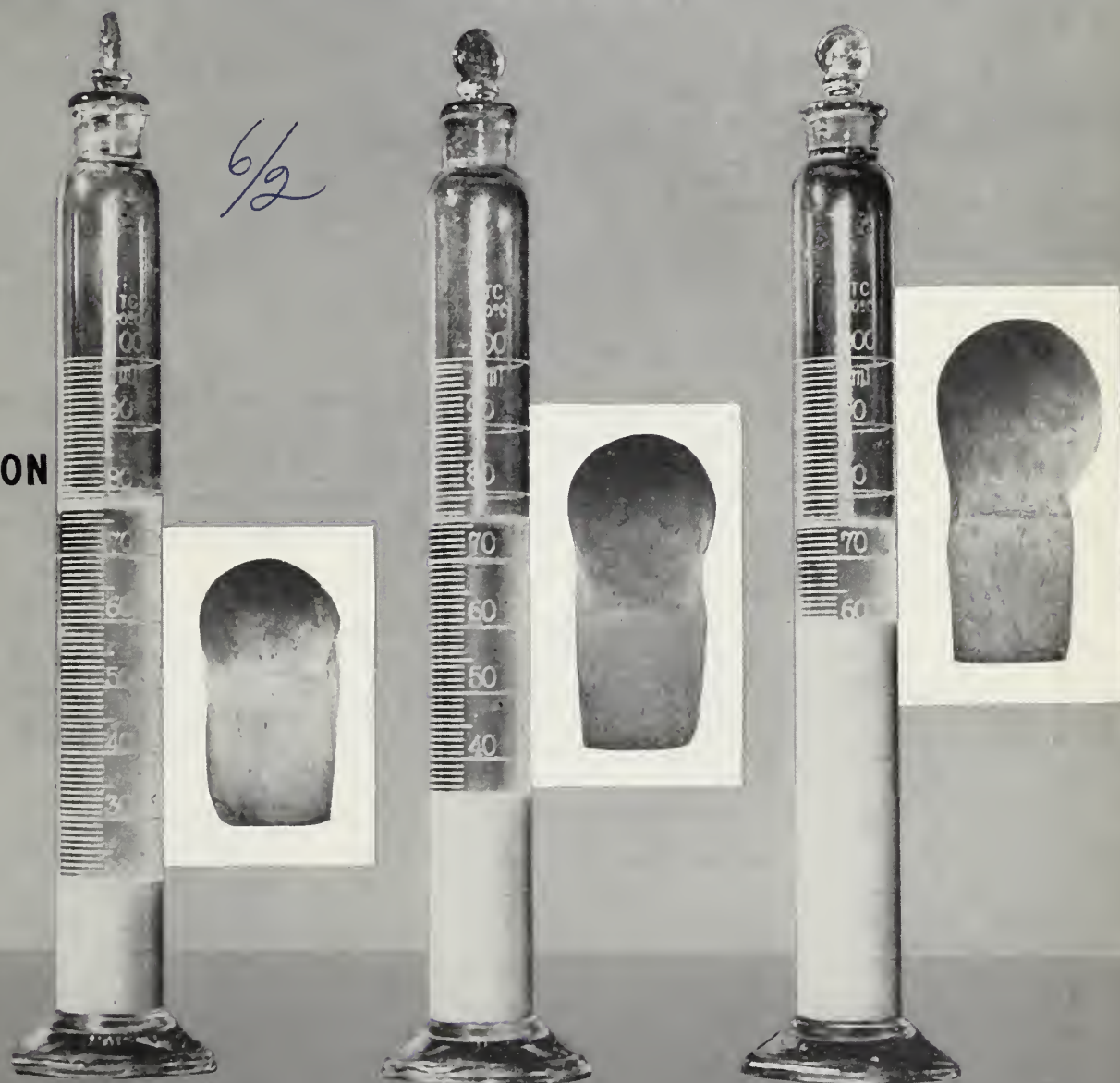
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SEDIMENTATION
TEST FOR
WHEAT



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Cover page

The sedimentation test gives wheat buyers advance information on how well the wheat they buy will bake into bread. The higher the sediment in the cylinder—holding a mixture of carefully measured water, lactic acid, isopropyl alcohol, and wheat flour—the higher the loaf of bread. The three cylinders on the cover show how closely the amount of sedimentation reflects the bread-baking qualities of the flour samples. The original test was developed by Dr. Lawrence Zeleny, Chief, Standardization and Testing Branch, Grain Division, AMS, USDA. Further developments on the test were made by research chemists A. J. Pinckney, W. T. Greenway, and Doris Berger of the Grain Division.

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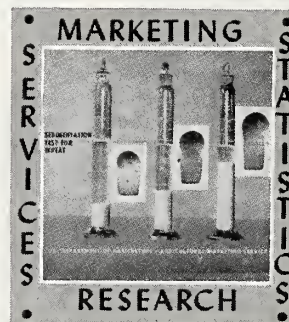


Growth Through Agricultural Progress

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SEDIMENTATION TEST FOR WHEAT



A product of USDA research, the sedimentation test provides a quick, easy, and inexpensive way to find bread-baking qualities of wheat.



The sedimentation test requires neither expensive equipment nor technical skill. The procedure itself is simple and rapid. It may be completed in 15 minutes, and a number of tests can be made at the same time. To make the test, a small quantity of flour is prepared from the wheat, measured, and mixed with a definite quantity of water in a cylinder. Then a small amount of lactic acid and isopropyl alcohol is added with further mixing. After settling for 5 minutes, the volume of the sediment is determined by reading the cylinder scale. The volume of the sediment depends on the quantity of gluten present and the degree to which it has swollen. The swelling capacity of the grain is closely related to the baking quality of the flour.

THE ZELENY SEDIMENTATION TEST for wheat—tried commercially for the first time in export last December on six test shipments to Japan—can open new doorways to foreign markets.

The test, a product of USDA marketing research, is quick and simple to perform, and inexpensive to make. It indicates the bread-baking qualities of wheat better than any other single test except the actual baking of a loaf of bread. As such, it offers buyers advance knowledge of the baking strength of the wheat they buy. And, as a marketing aid, it may put U. S.-grown wheat on a more competitive footing abroad.

The request that a sedimentation test be made on the experimental shipments came from the Japanese Government upon suggestion by USDA representatives.

The Japanese did not specify any particular sedimentation value. They simply asked that the grain be given the sedimentation test and the results reported.

They did, however, request that the wheat be of a certain protein content and that the grade certificates indicate the “clean out” (amount of shrunken and broken kernels and foreign materials).

Both of these factors involve other tests.

Although there is at present no indication that the sedimentation test can be used to replace the protein test, the sedimentation test is simpler and usually provides a more reliable measure of bread-baking quality.

New varieties of wheat are continually being developed to resist disease, insects, drought, and other crop hazards or to better suit improved farming methods. Sometimes

in the breeding process other qualities are weakened making the new variety less desirable for commercial food use. These qualities are often not apparent until after the new variety is put into commercial production.

This has resulted in wheat varieties that are “less strong” and less desirable for ultimate baking use. The test, by measuring the strength of wheat, adds to the information the miller and baker have in working out their flour- and bread-making formulas.

For the most part, bread flour is made from hard red winter and hard red spring wheats grown chiefly in the Great Plains. The test reveals which varieties of these two classes are the “stronger” wheats and thus superior for bread-baking use.

In the past, the subsidy rate under the “payment-in-kind” program from West Coast ports has been based on white wheat prices. This has resulted, for the most part, in a lower rate for hard red winter wheats at these ports than at other port locations.

With the establishment of a uniform subsidy rate for hard red winter wheat exports from all coasts, USDA has moved to open new markets in the Far East. Also, the special export programs to Japan, for which the sedimentation tests have been made, will permit pricing commercial-size lots of U. S.-produced hard red winter wheat competitively with comparable quality wheat produced in other wheat-exporting countries.

To popularize bread and other hard wheat foods in Japan, USDA representatives, producer groups, and

(continued on page 16)



ROADSIDE MARKET

a good outlet for farm produce

by J. F. Rosborough

FIVE MILES north of Jefferson, Texas, on Highway 59 lives the A.B. Hall family.

Back in 1948, they were growing watermelons for the wholesale market. Large piles of melons were stacked under the trees in front of the house awaiting transport trucks. Frequently, motorists stopped to buy a melon—but they wanted them cold for eating. So the Hall's daughter got a large icebox and started selling cold slices of watermelon for 25 to 35 cents a piece.

And that's how the Halls got into the roadside fruit and vegetable business.

Today, they sell fruit from 10 acres—mostly peaches—but such other vegetables as tomatoes, sweet corn, field peas, peppers, cantaloups, cucumbers, and watermelons.

Mrs. Hall sells canned fruits and vegetables along with a generous supply of jellies and jams. And, during peak periods, they buy hundreds of dollars worth of produce from their neighbors to sell to passing motorists.

The Halls use an open type shed structure with a floor covering of fresh pine shavings. A refrigerator 8 x 7 x 12 feet is kept filled with produce.

"Quality and friendliness are the two main factors in our business," says Mr. Hall. "We have about \$3,000 invested in our facilities, most of which we built ourselves. It is not uncommon to sell from \$200 to \$300 worth of produce a day."

The Hall's roadside stand is nothing elaborate. Yet, they are making a nice profit by selling their produce direct to the consumer.

Roadside stands offer an excellent opportunity for other farmers as well. Along the highways of our Nation, more than 5,000 cars a day pass many farm homes. The customers are there. Now what about the business?

Obviously, a farmer cannot rush blindly into roadside marketing. There are several points that need careful consideration.

Is your location a good one? What produce can you grow and sell? Can you get an extra supply from nearby growers? Will a roadside market fit into your overall farming operation? Can you invest in a suitable

structure and attractive signs? And do you enjoy meeting and talking with people?

Let's take them one by one. Location is first in importance. A level stretch on an open and busy highway provides a good location. Best markets have a wide road approach and are clearly visible from a distance. This is most important, because a car traveling 50 miles an hour requires 180 feet of stopping distance. Also, there must be space for turning and reentering the highway traffic.

The building must be neat and attractive if it is to have customer appeal. Keep the paint fresh and use conservative colors. The floor can be concrete, wood, or clean shavings. Build the roof high enough to avoid radiating heat below. Aluminum sheeting is a good roofing material. And be sure the premises are kept neat and clean. Refrigeration facilities should be included.

Signs should be placed at one, one-half, and one-fourth mile intervals as the market is approached. The signs should be neat and attractive; the lettering large and distinct.

Likewise, displays of produce at the stand should be large. A few scattered products have little drawing power. Large numbers of watermelons or fruits will get attention.

Also, be sure your produce is fresh. Freshness, after all, is the farmer's chief commodity.

Prices at most roadside markets will be somewhere between wholesale and retail prices. Place price tags on the various products.

Be polite and cordial so that customers will like you as well as your produce.

Some roadside markets have a guest register. Each season, cards go out inviting back those who have stopped the year before. Included is information on when certain products will be available during the coming season.

These are some of the things that make for a successful roadside marketing operation. The Halls made them work to their advantage. You could, too.

The author was for many years a horticulturist and horticulture marketing specialist for the Texas Agricultural Extension Service. He is now retired.

Buyer and seller know
what's involved when
seeds bear FSA label.

VARIETY OR TYPE		KIND	LOT NO
PURE SEED _____%	GERMINATION _____%		
CROP SEED _____%	HARD SEED _____%		
INERT MATTER _____%			
WEED SEED _____%	DATE OF TEST _____		
ORIGIN _____			
NOXIOUS WEED SEEDS (NAME AND RATE OF OCCURRENCE IN ACCORDANCE WITH STATE LAW)			
(NAME AND ADDRESS OF SHIPPER OR NAME AND ADDRESS OF CONSIGNEE WITH CODE DESIGNATION OF SHIPPER)			

by Stanley F. Rollin

GOOD SEED

UNDER THE FEDERAL SEED ACT

Look for the label on the bag or package, It tells what's inside, how well it will grow, and if seed has been treated.



All seed moving in interstate commerce must bear FSA label. Content is determined by analyst who separates "working sample" into pure seed, weed seed, other crop seed, and inert matter. Analyst must be able to identify all of the seeds.

GOOD SEED is the starting point for a good lawn—or any other crop.

One of the best ways to be sure the seed is "good" is to check the label required by the Federal Seed Act. It will tell you exactly what's inside the bag or box.

The Federal Seed Act applies to all agricultural and vegetable seeds that move in interstate commerce.

It helps both the seller and the buyer. If the product is good, the man who sells the seed gains a satisfied customer, who will be back for more. The customer, in turn, gains a good crop or lawn.

Somewhere on every package of seeds there is a label—if the package complies with the Federal Seed Act. This is true whether the package is a gaily colored box or a plain manila bag.

The label may be stamped or printed on the container itself or it may be on a tag that is attached to the package. But however it appears, it gives the information every buyer and seller needs if he is to know how good the seed in the package is.

First, the label must show the name of the kind of seed, such as "wheat" or "corn" or "Kentucky bluegrass." The name of the variety of agricultural seed need not be shown but it usually is. When it is given, the name must be correct. For example, if you want the Merion variety of Kentucky bluegrass, then look for the name Merion on the label as well as Kentucky bluegrass.

Using the name "Merion" on the label of any other variety of grass is a violation of the Federal Seed Act.

Probably next in importance, after showing the kind and variety of seed, is the analysis which shows how much pure seed is in the package. Seed that is 99 percent pure is worth more than seed that is 90 percent pure.

The percentage of each kind of seed in a mixture is worth noting, too. Valuable kinds may be present in small amounts and less valuable kinds in large amounts. The less valuable grass seeds are usually large. Therefore, there are fewer of them per pound and, though they cost less per pound, they are worth less.

Whatever else is in the package besides pure seed must also be stated on the label. This includes other crop seeds such as rough bluegrass in Kentucky bluegrass; the inert matter such as dirt, chaff, and pieces of stem; the amount of weed seeds; and the name of the noxious weed seeds and the number per ounce or pound of seed.

With the purity of the seed and the amount of impurities known, the next information needed is the germination. The seed may be pure, but will it grow?

Vegetable seed with a germination higher than a certain point need show only the kind and variety on the label. But for all other seeds, the germination is given in percent—the number of seeds out of a hundred that will produce strong plants.

Some seeds, such as white clover, have such hard and impervious coats that they will not germinate in the usual time but may in a longer period. These are listed as hard seeds.

A recent amendment to the law requires that a statement be made on the label if the seed has been treated to control diseases or insects.

So—if you're looking for good seed either to buy or to sell, look first for the label which must comply with the Federal Seed Act.

The author is Acting Chief of the Seed Branch, Grain Division, AMS.

PRICING and marketing eggs is a fast moving and ever changing process. And thanks to AMS research, market news is better able to keep up with current needs.

The latest shift is to prices reported at the shipping point level of trading. Historically, this has been at the larger terminal markets.

But times have changed. More and more price negotiations and changes in ownership are now taking place at country packing plants.

As a result, researchers, working with marketing reporters, developed

The author is an agricultural economist in the Marketing Economics Research Division of AMS.

REPORTING EGG PRICES AT SHIPPING POINTS

New service covers Minnesota, Iowa, and now Wisconsin; gives up-to-the-minute information on supplies, demand, and prices.

a report on egg prices at Iowa and Minnesota shipping points. And firms in Wisconsin were recently added to make the report more useful.

The problem for the researchers was to develop a report that would let buyers in one market compare the prices they paid with those paid by buyers in other markets for Iowa-Minnesota eggs. And, of course, shippers could use the report to compare the prices they received.

Let's see how they worked it out.

First, the researchers had to select the prices to report. They decided on net (or actual) prices received by shippers each reporting day as the most meaningful. And, from the technical standpoint, this would be the most practical price to report.

They were aided in their decision by a survey among large-volume egg shippers that showed some prices were negotiated on the day eggs arrived at terminal markets. Others were determined when eggs moved out of shipping points. And there were several other methods of determining price.

With this in mind, the researchers decided that a report on shipping point prices would be feasible. Iowa and Minnesota were chosen because they have the largest year-round surplus of eggs for the national market.

Altogether, shippers in these States

sell about 100 truckloads per day. The loads average 600 cases of 30 dozen eggs each.

The report on the shipments went into operation experimentally in April 1958.

At this point the researchers ran into a problem. The report combined prices for a two-day period.

Since egg prices may change as much as several cents a day, a report based on a two-day period may have a larger spread between the low and high price than a one-day report.

So, it was decided to list prices only for the day report was issued.

Here's how the new service works:

The information is gathered and released on Monday and Thursday. It carries information on supplies, demand, and prices for wholesale graded, consumer graded and cartonized eggs, and breaking stock.

Market reporters call about 70 egg shippers in the two States between 8:30 a.m. and noon. They summarize this information and prepare the report before 1:30 p.m. Central Standard Time. The report is then released to the public at Des Moines and sent by leased wire to market news offices for release in other cities.

The Marketing Economics Research Division and the Dairy and Poultry Market News Branch of AMS cooperated in developing this new service.

Shipping-point prices are gathered and released on Mondays and Thursdays. In Iowa and Minnesota, about 70 egg shippers are contacted between 8:30 a.m. and noon. Market newsmen analyze information, issue reports by 1:30 CST.



WHAT MAKES MARKET VALUE IN HOGS



by C. Lowell Strong

WHAT determines value in market hogs?

Aside from the influence of the supply situation, consumer preference is the important factor.

Today's consumer wants high-quality, lean pork meat and prefers small cuts. At the same time, the demand for lard has declined substantially in recent years.

The market and prices for hogs reflect these preferences.

Briefly, the most important factors translating consumer preferences into measurable differences among market hogs are these: the weight of the hog; grade, which indicates yield of cuts and quality of meat; and, dressing percentage—the number of pounds of carcass produced for each 100 pounds of live hog.

U. S. grades for hogs serve as a nationally uniform yardstick to help measure and identify differences in hogs and pork carcasses. They are so designed that a U. S. No. 1 hog will produce a U. S. No. 1 carcass.

The grades—both for hogs and pork carcasses—provide a measure of differences in (1) yields of cuts and (2) the quality of the meat. There are five Federal grades: U. S. No. 1, U. S. No. 2, U. S. No. 3, Medium, and Cull.

Hogs with enough finish to produce pork of acceptable quality—tender, juicy, and flavorful—are included in the three top grades—Nos. 1, 2, and 3. Although similar in quality, these grades differ widely in yields of cuts.

The U. S. No. 1 grade goes to the hog with the minimum finish usually associated with good quality pork.

This hog will produce the maximum yield of the lean, high-quality pork consumers desire.

Overfinished hogs, which will produce less lean meat and more fat, are graded No. 2 or No. 3, depending on the degree of overfinish.

Underfinished hogs, though they yield a high percentage of lean meat, produce pork of low quality. They will grade Medium or Cull, depending on the degree of underfinish.

The cutting yield—that is, yield of the four lean cuts, hams, loins, picnics, and Boston butts—is the key to grade. These four lean cuts account for nearly two-thirds of the value of the carcass, since they bring much higher prices than the fatty cuts.

The difference between each of the three top grades in yield of lean cuts is approximately three percent. This is enough to mean a decided difference in value.

For instance, on the basis of average wholesale prices for pork cuts at Chicago during the year ended June 30, 1960, a U. S. No. 1 barrow or gilt was worth 60 cents more per hundredweight than a U. S. No. 2 of the same weight and dressing percentage.

Dressing percentage also has an effect on live-hog values. For example, if a U. S. No. 1 hog weighing 200 pounds dressed out at 70 percent and was worth \$15 per hundredweight, a hog of the same grade and weight but dressing out at 72 percent would be worth \$15.43 per hundredweight. If it dressed out at 68 percent, this hog would be worth only \$14.57 per hundredweight.

Yield of the four lean cuts as a percent of live weight sometimes is

used as a measure of value. This, however, combines carcass cutting yield and dressing percentage into a single figure. Separate identification of the grade (which is based on yield of cuts as a percent of carcass weight) and of dressing percentage makes it possible to clearly see the effect of each of these factors on value.

Demand today for smaller pork cuts often means that lightweight hogs will be worth more per hundredweight than heavier hogs of the same grade and dressing percentage. So weight is another factor that has a definite effect on market value.

It is easy to see that differences in these value-determining factors—grade, dressing percentage, and weight—may at times offset each other. For instance, hogs of different grades may have similar values because of differences in dressing percentage or weight.

For that reason—so that producers and others interested in marketing hogs may be able to gauge what effect these major value-determining factors have on market prices—USDA livestock market news reports usually include descriptions of differences in grades, dressing percentages, and weights.

And today there is an ever increasing trend toward marketing hogs on a "merit" basis, with higher prices for hogs with higher yields of lean meat, high dressing percentage, and desirable weights. The traditional practice of pricing hogs almost entirely on the basis of weight is fast disappearing. The consumer demand for lean pork cuts has been a vital factor in bringing about this change.

Sniffing detects off-odors. Here, inspector watches while a plant employee takes a whiff inside can.



BREAKTHROUGH

IN DAIRY PLANT

A SANITATION BREAKTHROUGH is taking place in the cheese industry that, in its earth-bound way, might be compared to the first Sputnik.

The instrument involved is the dairy plant survey provided by the Dairy Inspection and Grading Service of USDA's Agricultural Marketing Service.

Available on a voluntary basis to dairy plants anywhere in the United States, the surveys help locate trouble spots. About 120 different items are thoroughly checked—things like milk cans, temperature and humidity controls, pipe lines, even the flooring in the plant.

Plant managers find the inspections an invaluable aid in establishing and maintaining good plant practices.

A fairly new service—in general operation only since 1952—plant inspections have been rapidly accepted by the industry. Close to 1,600 surveys were made during the fiscal year ending June 30, 1960. This was about 100 more than the year before.

Early last year a major midwestern cheese assembler sought a 100 percent "Full Status" for the more than 100 independently-owned plants supplying its Central Division. Target date—April 1961. Objective—Nothing but high-quality cheese in the company's inventory.

To achieve a "Full Status" rating, the plants must use high-quality milk, have good clean facilities and equipment, maintain proper temperature and humidity controls, and in general turn out a good product.

As the company manager said: "Our money is invested in our inventory. When any part of that inventory becomes unsatisfactory, we're throwing away money. That's why we're trying to clean up the plants. When every plant is 'USDA Full Status,' our inventory losses should be greatly reduced.

"We decided to use USDA inspection, rather than our own personnel, because USDA standards are high; inspection is impartial and thorough; and a USDA rating carries

Inspector starts survey early in the day, prefers to take plant manager with him as he makes the inspection.





temperature below the critical mark of 50 degrees?
s can tested 45 degrees, so there's no problem here.

Milk cans are checked for rust or open seams.



Inspector takes apart pumps, pipelines, anything touched by milk to check if plant is kept clean.



SANITATION

by John C. Baker

prestige with our own people and all of the dairy trade."

In Wisconsin and other States, many cheese assemblers and factory owners are requesting USDA plant inspection on a regular basis. One large nationally known dairy company has USDA surveys made of its cheese supplier plants twice a year. And, the cheese department of a large food chain uses USDA inspection to supplement its own field inspection service,

This increased activity has meant more work for USDA dairy products inspectors, particularly those located in the 21 States assigned to the Minneapolis and Chicago offices. Thirteen of the States in this area produce 81 percent of the Nation's cheddar cheese, 85 percent of its butter, and 76 percent of the nonfat dry milk.

During fiscal 1960, about 500 cheese plants were surveyed in these States—150 more than the previous year. While the increase in numbers is significant, even more significant is the reason behind the survey program.

Says E. R. Bartle, USDA's Minneapolis Area Supervisor, "The main purpose used to be eligibility to sell products under the Government price support program. Surveys now are mainly to improve and maintain quality of the product, to sell to the trade and to consumers."

The inspection service is voluntary. A USDA inspector makes a survey of a dairy plant only if he has been requested to do so, either by the management or by an assembler of dairy products. The request carries with it an agreement to pay the inspection charges—about \$40 for a cheese plant; \$50 for a butter or milk drying plant.

Included in the inspection is a check of about 120 items, each of which is carefully scrutinized and any shortcomings noted. The inspector leaves a summary of his recommendations with the plant manager and sends the complete report to the Area Supervisor's office. The Supervisor then determines whether the plant is to be rated "Full Status,"

(continued on page 16)

Examining pasteurizer to be sure it's clean. There is no substitute for sanitation in dairy operation.



Checking moisture in cheese drying room.



Area supervisor studies the inspectors report and assigns rating.



SOUTH TEXAS

Points with Pride

by Carl Sorenson

QUALITY!

That one concept, more than anything else, is the rallying call of fruit and vegetable growers and handlers of south Texas in their battle for markets.

It's a constant fight, this business of developing, holding and expanding profitable market outlets for highly perishable produce. But strong optimism prevails in Texas today.

Almost a decade ago, severe freezes nearly demolished south Texas citrus orchards. That jolt was a rough one. Volume of production is just now beginning to resume its former stature.

But many feel the freezes were like Mrs. O'Leary's cow and the Chicago fire—they opened the way for sound reconstruction, with a plan.

Helter-skelter marketing methods and the selling of culls in competition with fresh produce of high quality have been sustained jolts, much more decisive than the freezes. They affect all fruits and vegetables grown in the 14 major producing areas of Texas.

What provides the basis for today's optimism, then?

It's cooperation—on a large scale. Growers and handlers are working together to regulate the quality of produce they ship. They're relying on Federal marketing orders and agreements as the vehicle to coordinate their efforts.

Before they took a single step, Lower Valley farm leaders made on-the-spot surveys of how marketing agreements worked in Florida. They held meetings, studied pros and cons extensively, and invited the U. S. Department of Agriculture to hold hearings and conduct referendums. They nominated local commodity committees to administer the programs.

Their first order became effective just two years ago. It was on tomatoes. Results were gratifying. In the last six months, growers and handlers have approved marketing orders and agreements covering oranges, grapefruit, carrots, and lettuce. Another on onions is proposed.

Under the marketing order and agreement programs, regulations are determined by the grower-handler committees, as approved by the Secretary of Agriculture.

To help these committees operate within the legal machinery provided by Congress, the Agricultural Marketing Service has opened a new fruit and vegetable marketing office at McAllen.

The author is Assistant Chief of the Southwest Area Office of the Marketing Information Division, AMS.

Strength of the program lies in cooperation—everybody working together. Local county extension agents are a bulwark of strength. They've worked closely with growers, helped with referendum details, explained opportunities available under the marketing orders.

Extension and experiment station folks at Texas A. & M. College have contributed much, including an explanatory pamphlet on marketing orders and agreements. And south Texas folks are making full use of market news, crop estimates, acreage-marketing guides, and marketing research.

All of these aspects are important. But underlying all formal organization is a determination among growers and handlers to ship "reputation" produce—the kind that will invite repeat orders for high-quality, attractively and uniformly packed fruits and vegetables.

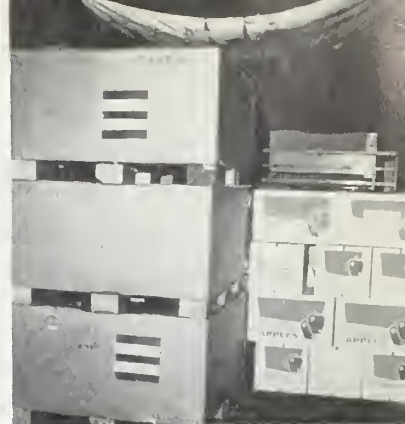
Things are rolling in south Texas this winter. Consumers buying south Texas produce are the chief beneficiaries. Growers in other parts of Texas and in other States are watching developments closely. Would marketing agreements and orders work for them, too?

Whether their dreams fully or partially materialize, fruit and vegetable growers and handlers in south Texas can "point with pride" to their goals, ambitions, and efforts . . . a place in the market for their produce, uniformly packed with quality.



South Texans make good use of AMS market news reports, crop estimates, acreage-marketing guides, and marketing research. They then ship high-quality produce, attractively and uniformly packed, at a time when both it and the market is "ripe."





Shipping Apples in Pallet Containers

by Philip L. Breakiron and Paul F. Shaffer

Apple shippers and handlers may use any of several types of pallet containers. At the left, one type of expendable box is shown in automatic dumper. Nonexpensible type is in center photo. At right are expendable pallet boxes and 40-pound cartons.

SHIPPERS and handlers of Washington State apples can save more than \$400 a carload by switching their method of transportation, packaging, and handling.

Instead of packing the apples in 2-piece, 40-pound tray-pack cartons at the shipping point, they can ship them in large pallet containers. The fruit is then bagged in 4-pound consumer bags at the terminal market.

This saves 4½ cents a bag, because there are fewer containers and less handling.

AMS researchers find pallet containers a ready answer to many handling problems.

In the first place, the containers have built-in pallet bases so they can be picked up by lift trucks either individually or stacked 2 or 3 high. Using large pallet boxes, it takes only 1.6 man-hours to load, unload, and dump 36,700 pounds of apples onto a packing line.

To handle the same amount of fruit with conventional, 40-pound fiberboard cartons, the time would total 11.3 man-hours.

Pallet containers hold from 500 to 2,000 pounds. As adapted for the shipment of apples, the boxes are 42 inches wide by 47 inches in length. Boxes of these dimensions fit well into both refrigerator cars and trailers.

For quick and easy handling, the containers have 4-way entry pallet bases. So, they can be picked up from any side.

Because apples are easily bruised and because the weight of the load lengthwise in the trucks must be evenly distributed, the height of the containers is limited to 20 inches inside, 26 inches on the outside.

As for bruising, the apples ride just as well in the pallet containers as in 40-pound fiberboard cartons.

The big advantage of the pallet boxes is in the reduction of dead weight—which means lower transportation charges. A rail car or trailer filled with 54 pallet containers carries only 3,348 pounds of tare weight; the rest is apples. Loaded with 800 conventional cartons, the weight of the cartons totals 3,800 pounds.

Also, the larger load made possible through pallet-box handling qualifies the shipment for a lower freight rate. This comes to about \$80 per pallet box carload equivalent.

There is, however, a choice to be made among the various types and designs of pallet containers. This is mainly a matter of weight versus reusability.

For example, one nonexpensible type weighs 106 pounds; another design, which could be considered either expendable or reusable, weighs only 62 pounds.

Nonexpensible containers generally weigh 15 percent as much as the fruit inside; the less expensive, expendable container, about 8 percent. The weight of the smaller, conventional tray-packed carton averages nearly 11 percent as much as the fruit.

The lightweight expendable containers, despite their name, can be reused 3 to 5 times. This, too, helps cut costs. Their lightweight construction offers a further advantage in returning these containers to the shipping point.

So, you can figure economies all down the marketing line—in transportation, loading and unloading, and in prepackaging at the central wholesale warehouse instead of at the retail store.

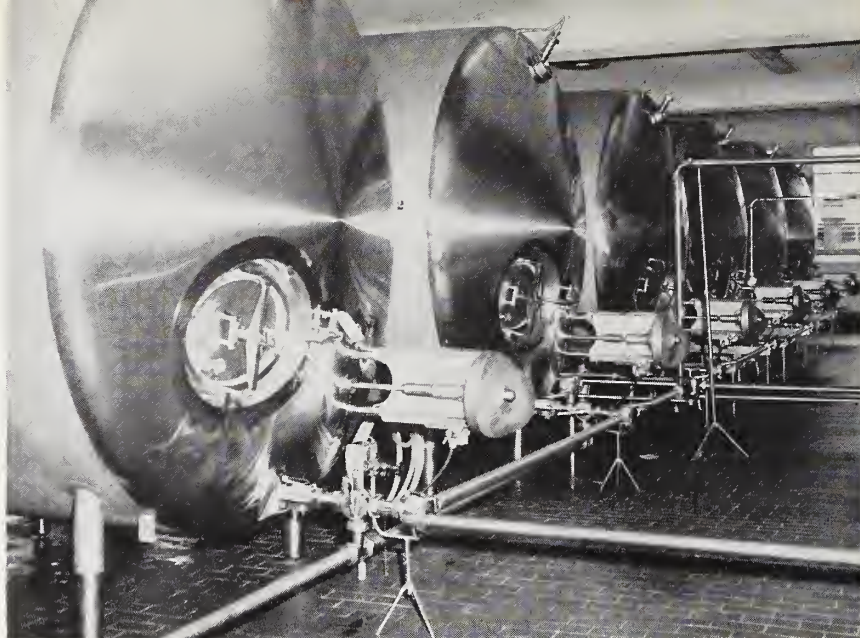
Warehouse prepacking is more efficient and economical because it permits a specialization of labor and equipment, better control of both manpower and product, and improved scheduling of purchases and distribution.

This is true for not only apples but for a broad variety of fruits and vegetables—oranges, grapefruit, onions, and the like.

Other economies may be achieved by using pallet containers in conjunction with new transportation equipment, automatic pallet box fillers, dumpers, and other handling equipment.

The authors are staff members of the Transportation and Facilities Research Division, AMS.

Even in periods of large supply, plants in New York-New Jersey milkshed have enough capacity to take care of the demand.



About 3.5 billion pounds of milk a year from this milkshed goes into manufactured dairy products instead of into fluid milk, cream, and dairy drinks for which it was produced.

CLASS III MILK IN THE NEW YORK MILKSHED

by Louis Herrmann

COSTS . . . competition . . . profits . . . and problems. Draw them out and you get the portrait of an industry in action.

That's just what a team of researchers from the Agricultural Marketing Service did recently. Their 6-report study covered the Class III milk industry in the New York milkshed. (The milkshed covers parts of Pennsylvania, New Jersey, Vermont, Connecticut, Delaware, Maryland, and all of New York.)

About 3.5 billion pounds of milk from this area goes into manufactured dairy products instead of into fluid milk, cream, and dairy drinks for which it was produced. Since it is not used in the fluid market, it becomes Class III milk.

Under the Federal marketing order for the milkshed, farmers delivering to "pool" plants—plants which meet certain criteria in the marketing order—are paid a blend price by the plant. The payment is an average price for milk that goes into all channels, and is, consequently, lower than the price for fluid milk.

Class III milk is the same quality as milk for fluid use. So, why should its price be lower than that of other milk of the same quality?

There are many reasons, but these are the most important:

Class III milk must compete with unregulated milk. That is, milk produced for the manufacturing market. Unregulated milk, though perfectly wholesome for manu-

facturing purposes, is not up to the standard for drinking milk and is cheaper to produce.

Class III milk is classed as such because there is a surplus in fluid markets. The only thing to do with it is to turn the milk into more easily stored products like ice cream or cheese. But the ice cream or cheese manufacturer who uses this milk must compete with those who use the cheaper unregulated milk.

Not all firms processing fluid milk manufacture dairy products. Many find it more economical to send their Class III milk to other plants for manufacture.

But, how about the capacity of the manufacturing plants? Does the fact that the supply of Class III milk varies cause the plants to have excess capacity at one time of year and not enough at other times?

As might be expected, at periods of low milk production there is excess capacity in the manufacturing plants. But even when there are large supplies of Class III milk, the New York-New Jersey milkshed plants have enough capacity to take care of the demand. This is true despite the fact that an average of $2\frac{1}{2}$ times more milk is available for manufacture in May than in December.

The season also has an effect on the product manufactured. In May—the flush time—much of the extra milk is used for cheddar cheese. This is because the manufacturing operation for cheddar uses rather inexpensive equipment. So, when some equipment must remain idle during the slow season, it is this least costly equipment that remains idle.

Another factor affecting what the plants produce is location. Northeastern and northern New York areas produce butter and cheese. The western part of the

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The season also has effect on what product is manufactured. More cheddar is made in May when the output of milk is high.

Processing costs for cheddar cheese run about 75 cents per 100 pounds of milk received. This does not include price of raw milk.

Cheddar cheese production varies from year to year. In 1958, it accounted for equivalent of a quarter of a billion pounds of milk.



milkshed produces much of the condensed milk.

Most manufacturing plants are located away from large metropolitan areas such as New York City. It is far more economical to ship butter into the metropolitan area than to ship the comparatively bulky whole milk.

The cost of manufacturing various products depends less on the location of the plant than on what is being manufactured.

Processing costs, excluding the price paid for the raw milk, ranged from about 45 cents to 74 cents per 100 pounds of milk received.

The costs for specific items were:

- cheddar cheese, 75 cents;
- cream and condensed skim milk, 45 cents;
- butter and nonfat dry milk, 63 cents.

And what about profits?

A "profit" margin for the pool plants was determined by calculating prices received by the manufacturer and

the cost of raw materials and processing. This is not exactly the same as profit since some marketing and administrative costs were excluded. But it does give a good idea of what profits might be.

Using this as a guide, ice cream mix and creamed cottage cheese gave processors the largest margin for milk fat—a 10-year average of \$1.50 per hundredweight.

Manufacturers find their best market combination is ice cream mix and condensed skimmed milk or creamed cottage cheese. If they can find a market for these products—no easy task in itself—they'll up their margin by about 50 cents per hundredweight over those who make other combinations of products.

Margins for the different products have been fairly steady over the past 10 years. For instance, the margin for butter and condensed skim milk was about 50 cents in 1948 and 1957.

Because of the difference in margins, plants occasionally change from manufacturing one product or combination of products to others to make more money. But the shift is infrequent.

Plant operators find it difficult to shift their output for several reasons. Chief among these is the problem of finding customers.

Manufacturers of ice cream mix do, however, change their use of raw materials. If the price for butterfat is most favorable in butter, this is the product they tend to use. If the price of fat content in cream is lower, they use more cream.

All of these factors have an effect on the industry. And they also have an effect on the farmer who produces the milk.

Plant and product inspection is an important phase of any processing operation. USDA inspectors make careful checks on sanitation and quality control.



As direct buying moves the market place closer to fields where crops are grown, market news reporters extend coverage to country shipping points.



Last year, 267 f.o.b. shipping point reports were issued on 43 crops. Increased coverage provides marketing men with more information on volumes and supplies in their areas as well as movement and prices in competing areas.

FRUIT and vegetable market news reporters have to go where the markets are—and these days that means they're moving closer to the country shipping points. More direct buying by large organizations and terminal operators has moved the market-making factors closer to the fields where the crops are grown.

In the past, growers and shippers could decide fairly accurately what their fruits and vegetables were worth at the farm by following prices reported in terminal markets. These are still good guides—but the emphasis on direct buying means more information is needed on market conditions in producing areas.

The Market News Service has worked to get as much of this information as possible. State agencies and grower organizations, too, have cooperated in the effort to give a complete day-to-day picture.

This move toward the shipping points is not new. It started developing in fruits and vegetables around 1925. In the mid-20's the Market News Service, with its cooperating State and growers' organizations, reported on 18 commodities and issued 69 f. o. b. reports; in 1959, 267 f. o. b. shipping point reports were issued on 43 crops.

In the last seven years, 71 new shipping point reports have been added—either commodities or areas that previously were not covered. During the same period, only 15 reports were dropped.

The Market News Service has covered many of these new, active trading areas by using its current personnel and existing facilities. One

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method of expanding coverage without expanding the staff is to have terminal market reporters cover f. o. b. shipping points in nearby areas. Eleven of the 23 terminal offices are now issuing f. o. b. information.

The most recent example of this is found in the Philadelphia market news office. The Philadelphia terminal market has been reported for many years. But several years ago reporters began gathering information and reporting f. o. b. markets on the eastern Pennsylvania potato deal. This year f. o. b. information was also gathered on corn, cabbage and tomatoes in the eastern part of the State.

In this case the USDA furnished its men and facilities, and the Pennsylvania State Department of Agriculture absorbed the extra telephone and travel costs for gathering the information. The Philadelphia office also worked closely with the New Jersey Department of Agriculture in reporting more commodities from New Jersey, including the shipping point auction markets.

With this increased shipping point coverage, growers and shippers in the area now get more market information on the volume and supplies in their own area, as well as information on movement and prices in competing areas.

Coverage also has been expanded in some areas by extending the operational dates of seasonal offices to cover new commodities. Operating periods for the Federal-State market news offices in Florida recently were extended about four months. These offices are now covering crops that were reported in previous years.

This trend toward more f. o. b. reporting probably will continue, and the Market News Service is making plans to stay right on its heels.

MORE SHIPPING POINT MARKET NEWS COVERAGE

Massachusetts schools boost

Local Cranberry Industry

by Daniel A. Alfieri

AS TYPICALLY American as the cranberry itself is the approach Middleboro, Mass., school officials are taking to use even more of this year's outsize cranberry crop—a crop having great significance on the economic life of the community.

Nationwide, the 1960 cranberry harvest ran close to 1.3 million barrels, higher than early estimates and 6 percent over last year. In Massachusetts, where most of the gain occurred, the crop exceeded that of 1959 by 26 percent.

How Massachusetts' schools can get behind local industry and boost cranberry consumption was recently demonstrated by Middleboro School Superintendent Stanley Kruszyna.

Cranberries are served often in both the Middleboro elementary and high schools. They appear as a sauce in one, as a dessert in the other. In the lower grades, youngsters also enjoy a cranberry "juice break."

By taking advantage of plentiful foods, listed monthly by the U. S. Department of Agriculture, schools usually get more for their food dollar. At the same time, they assist farmers who may be faced with marketing difficulties.

In Middleboro, the community has a big stake in the cranberry industry. Many families depend on it for a livelihood. It is only logical that every effort be made to encourage increased consumption.

"The best place to set a good example," Kruszyna asserts, "is right here at home."

The author is Chief of the Northeast Area Office of the Marketing Information Division, AMS.



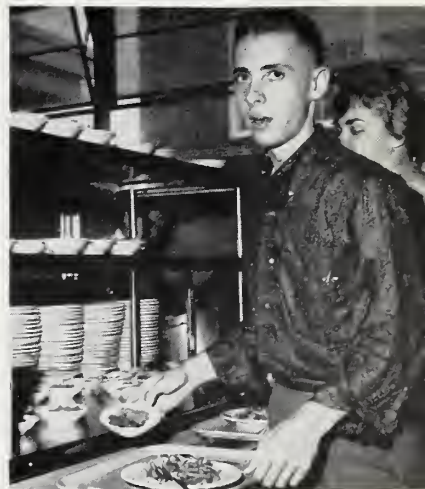
"Cranberry Crunch" gets the nod of approval from school officials in Middleboro, Mass. The occasion was a demonstration on how Massachusetts schools can contribute to consumption of cranberries.



It's "on the house" at Mayflower Elementary School in Middleboro. Principal Edward Sawicki does the honors with cranberry juice for a pretty first grader. Middleboro school officials, together with USDA, are giving cranberries a boost this year.



There's plenty more where these cranberry products came from—this year's record crop. Inventory at Middleboro school shows a well-stocked cupboard.



Even the high schoolers come in for their share of cranberries. This young man selects cranberry crunch for dessert. Promotion of cranberries has full support of U.S. Department of Agriculture, which places the tasty berry on its Plentiful Foods List.

Middleboro first graders take a juice break—cranberry juice, that is. It's all part of the school's effort to aid in the consumption of cranberries and cranberry products. In Massachusetts alone, the 1960 crop is up 26 percent.



The Changing Market

Plentiful Foods for February

Cabbage tops the USDA Plentiful Food List this month, followed by onions, rice, canned ripe olives, peanuts and peanut products, and cranberry products. On a regional basis, pea beans and ducks are in abundant supply.

National Egg Month

The mighty egg, longtime king of the breakfast table, will again come into the limelight in March. That's the time the U. S. Department of Agriculture's Agricultural Marketing Service cooperates with the poultry and egg industry in celebrating National Egg Month.

Each year, during this period of peak production, the poultry industry redoubles its efforts to "sell" eggs to the public.

For some time now egg consumption has been on the decline. Per person consumption last year reached an 18-year low of 325 eggs. Ten years before, the rate of consumption stood at 389.

The reason for a good part of the decline may be found in a recent AMS survey. The study showed most homemakers interviewed believe a "good" morning meal should include eggs for breakfast but at the same time they did not feel that they themselves and most members of their families need a substantial breakfast.

They were sure about male students and men performing manual labor, but not about the other members of the family.

If the egg industry could get across the idea that everybody needs a "good" substantial breakfast (which

would, of course, include eggs), consumption could trend upward.

March would be a good time to start—eggs will be plentiful.

Sedimentation Test for Wheat

(continued from page 3)

others have carried on a market development program there since 1956. This has been done through trade fairs and exhibits, television, radio, and newspaper advertising, trade teams, school lunch programs, and a bakers' training program.

Japanese millers and bakers are increasingly interested in learning which types and qualities of U. S. hard red winter wheats are best suited for their needs. The sedimentation test could tell them the answer.

If the Japanese like our wheat—and the sedimentation test will assure them in advance of its quality—they probably will request more of it. And what goes for the Japanese could apply to other foreign buyers as well.

Dairy Plant Sanitation

(continued from page 9)

"Probationary," or "Ineligible."

A complete typed report is then sent to the manager accompanied by a letter containing applicable comments and informing him of his plant's status.

Often, the plant manager has started to make improvements and corrections before the formal notification arrives. Some of the improvements can be made quickly and cheaply; but some can run into big money.

It costs about \$5 to retin a milk can, and a typical cheese plant uses

upwards of 400 cans. A new can costs about \$12.

Resurfacing or tiling a floor runs into hundreds or even thousands of dollars. Air conditioning, which sometimes is necessary in a cheese drying room, doesn't come cheap. Replacing a worn out, old wooden churn in a butter plant with a new metal churn involves spending about \$7,000.

Sometimes a dairy processor will decide it's cheaper to start over. Four Wisconsin brothers, each with a small plant selling cheese to the same assembler, decided not to recondition their four small plants but to build one large new plant instead.

"Most plants need to spend some money to qualify for 'Full Status,'" says USDA's Reuben Wilson, Chicago Area Supervisor. "But more than that, many plants need to use more care in cleaning their equipment. Too many plant operators are attempting to get by with 'clean-in-place' methods on old-style milk pipelines designed only for take-down cleaning. We know it can't be done.

"In-place cleaning should be used only on specially engineered pipelines, and the lines need to be taken down at intervals to make sure the cleaning is effective. Pumps, pasteurizers, coolers, and other dairy processing equipment should be taken apart and cleaned every day.

"There is simply no substitute for time and elbow grease in dairy plant sanitation. And there is no substitute for sanitation in turning out high-quality dairy products."

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